Mary P. Goldade

From: Lavelle.Bonita@epamail.epa.gov
Sent: Tuesday, March 28, 2000 10:56 AM
To: mgoldade@issiinc.com
Subject: Criteria for SRM < PQL

Mary:

Please review the proposal below. Some of my thoughts are:

It appears that MK's problem is with low lead standards - since our objective is to be able to quantify arsenic at the low concentrations, we may be able to live with this.

I want to be sure I'm interpreting this correctly and I'm also reluctant to discontinue the use of standards which Chris specifically requested.

Please advise...thank you.

Bonnie
---------- Forwarded by Bonita Lavelle/EPR/R8/USEPA/US on 03/28/2000 10:30 AM ----------

marta_green@mk.com on 03/27/2000 09:01:02 AM

Please respond to marta_green@mk.com

To: Bonita Lavelle/EPR/R8/USEPA/US@EPA

cc: ellen_mcentee@mk.com, kevin_williamson@mk.com

Subject: Criteria for SRM < PQL

There is no EPA criteria for recovery of standards at concentrations below the PQL. We recognize that results between the MDL and PQL are only serni-quantitative. Therefore, we cannot expect the same degree of accuracy in standards near the MDL as we expect for concentrations above the PQL.

Ellen and I discussed this with you at our meeting back in August, and indicated the need to clarify the criteria for the low standards in the QAPP Table 4-2 (please see Summary of MK Comments for Discussion, 8/26/99). We recommended and have used an acceptance criteria for these low (<5x MDL) concentrations at +/- MDL, as this is the EPA-accepted criteria for similarly low concentration duplicates.

If we to impose the stringent acceptance criteria of 80-120% on the low concentration Phase IIIA data, the following standards would not meet that criteria:
NIST 2709 63% Pb (Pb < MDL) 7% As
NIST 2704 0% Pb (Pb > PQL) 22% As

It seems inappropriate to qualify/reject an entire analytical batch based on the expected, semi-quantitative results for a standard with concentrations at less than the PQL. However, we should be able to use the recovery data from Phase IIIA to demonstrate the expected accuracy and re-evaluate the control limits for the next phase of analysis.

Therefore, we propose the following:

1. Discontinue using NIST 2704 because it has been discontinued and NIST no longer considers the values to be certified (this standard is not specified in the XRF SOP, but included it at C. Weis' request).
2. Obtain any new low Pb concentration standards, if they become available and incorporate to the method
3. Continue running NIST 2709 and apply the acceptance criteria of 80-120% of the certified As value (based on demonstrated recovery on 93% of the Phase IIIA batches) - re-analyze the entire batch if criteria is exceeded. No acceptance criteria applies for Pb in this standard.

We will clarify this approach in the revised XRF SOP. Please call me to discuss.

← this one has levels similar to background levels As/Pb

~ok, but ratio of Pb/As is not representative

8704 available arsenic not certified

Not sure why there's no certified value.

Need a std near MDL could use base line